

*Central Plan. Board*

A PRELIMINARY REPORT  
ON THE  
PROPOSED MILITARY PARK  
GARAGE  
FOR  
NEWARK, NEW JERSEY

CENTRAL PLANNING BOARD  
OF THE CITY OF NEWARK, NEW JERSEY

*Mein*

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ACTING EXECUTIVE SECRETARY

CENTRAL PLANNING BOARD OF NEWARK, NEW JERSEY

December 12, 1946

To the Honorable  
The Mayor and City Commissioners of the  
City of Newark, New Jersey

Gentlemen:

We herewith submit this Report on "The Proposed Military Park Garage" as the result of our investigations, studies, and deliberations in the subject matter. We have retained in the Report the descriptions of four of the many plans considered although we recommend only Plan "D" because of its many advantages.

We wish to publicly thank the Citizens' Advisory Sub-Committee on "Streets and Highways"; "Transportation"; and "Central Business District" for their careful and extensive investigation into these matters. Also City Traffic Engineer Edward L. Cyr; Division Engineer Walter S. Bayer, of the Bureau of Sewers; and Assistant Corporation Counsel George B. Astley; for their invaluable aid and assistance in this study.

We believe the report contains a clear and concise analysis of the proposal to construct an underground parking garage beneath the surface of Military Park.

We are firmly convinced that the construction of this garage will alleviate, to a large degree, the present parking deficiency in our Central Business District and will bring a new and desirable shopping public to patronize our retail and merchandising establishments.

We are confident that the construction of the garage will improve the Park itself because a new landscape treatment will certainly increase the attractiveness of the present central area of the Park.

We are further convinced that this project is financially sound and urge the members of the City Commission to make a careful digest of this Report, and, if it meets with their approval, to take immediate steps to put the attendant plan in operation.

Respectfully submitted on behalf of the  
Central Planning Board of the City of  
Newark, New Jersey.

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HARLAND BARTHOLOMEW AND ASSOCIATES - CITY PLANNERS  
Harry W. Alexander, Resident Planner

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HARLAND BARTHOLOMEW AND ASSOCIATES

CITY PLANNERS - CIVIL ENGINEERS - LANDSCAPE ARCHITECTS

117 NORTH ELEVENTH STREET

SAINT LOUIS 1, MISSOURI

HARLAND BARTHOLOMEW

RUSSELL H. RILEY

HARRY W. ALEXANDER

ELDRIDGE LOVELAKE

E. O. PEARSON

October 1946

Central Planning Board of the  
City of Newark, New Jersey

Gentlemen:

We are pleased to submit a preliminary report on the proposed Military Park Garage in accordance with authorization given by the Board on August 29, 1946.

The proposed improvement is part of a comprehensive plan for off-street parking facilities recommended by the Board to the City Commission in the Board's report on Major Streets made in August 1945.

The special studies were made by Charles W. Martin, our associate engineer, who spent several weeks in Newark on problems of design and cost estimates.

Previous studies and data were made available to us by the Engineering Department of the City of Newark. We also wish to acknowledge our appreciation of the assistance given by the Broad Street and Merchants' Association who have been actively interested in the project for the past several months.

Respectfully submitted,

HARLAND BARTHOLOMEW AND ASSOCIATES

HWA/IMS

By: *Harry W. Alexander*



A PRELIMINARY REPORT ON THE PROPOSED  
MILITARY PARK GARAGE.  
NEWARK, NEW JERSEY.

CENTRAL PLANNING BOARD  
OF THE CITY OF NEWARK, NEW JERSEY.

OCTOBER 1946.



## SUMMARY OF CONCLUSIONS

After careful consideration of all of the factors involved, the following conclusions are reached in respect to the construction of an underground garage in Military Park.

(1) The improvement is desirable as part of a comprehensive plan for relieving acute parking shortage which is now present in Newark, and which will grow progressively worse.

(2) Unless such a comprehensive plan is put into effect within the next few years, there is danger that business values will be adversely affected by increasing stagnation of traffic in the central district.

(3) There are no insurmountable legal or engineering problems in connection with the improvement.

(4) The garage is financially feasible even at present cost levels, but scarcity of building materials might require postponement of actual construction for an indefinite period.

(5) In order to make the project "pay out", it will be necessary to establish somewhat higher rates than those now in effect in Newark parking lots and garages, but as the proposed facility is to be so far superior to any similar parking facility, the higher rates can be justified.

(6) The garage is designed so as not to change the character of Military Park, except in minor detail, and it will be unnecessary to disturb the present historical structures, such as the <sup>U. S. P.</sup> Ward of America Memorial and Trinity Cathedral.

(7) The project is designed so as to minimize interference with traffic movements on Broad Street and the other surrounding thoroughfares. Because the facility would primarily be used for shoppers parking, and there would be no abnormal peaks in traffic entering and leaving the garage, no undue congestion is anticipated.

(8) The estimated over-all cost of the project is \$2,035,000, which will provide a three-story garage structure, housing 1,000 vehicles and containing a total area of approximately 340,000 square feet.

Based on estimated costs of operation and carrying charges and estimated revenue derived from parking and other services, the project would be self-supporting and would amortize itself in twenty to thirty years.

(9) Careful consideration of the problems connected with the location of the entrance and exit of the garage, leads to the conclusion that they should be on the Broad Street side, and that traffic entering the garage should proceed by way of West Park Street, and traffic leaving the garage by way of New Street, both of which intersections are now controlled by traffic signals.

I N T R O D U C T I O N .

## INTRODUCTION

The idea of constructing an underground parking garage in Military Park is <sup>now</sup> new. For a number of years the plan has been discussed and a few years ago, a study was made by the Department of Public Works of the City of Newark and preliminary plans were drawn, showing how such a facility might be constructed. However, due to various reasons, the project was not advanced and has lain dormant until recently when the rising pressure for parking space in down-town Newark brought the subject into prominence once more.

The construction of the garage was recommended in the Planning Board's report on Major Streets and Highways, submitted to the City Commission in September, 1940. This report did not examine the project in detail but included it as part of a comprehensive plan for off-street parking in Newark's central business district.

Following this report, merchant interests in the City began discussion of the feasibility of the project, and, at the request of the City Commission the matter was referred to the Planning Board for

further study.

The Planning Board authorized, in August, 1946, employment of Mr. Charles W. Martin, Structural Engineer, associated with Harland Bartholomew and Associates, City Planners for Newark, and, for the past several weeks a detailed engineering analysis has been conducted of the cost of construction of such a facility and its economic feasibility.

This report summarizes the results of the intensive study just completed.

#### NEED FOR ADDITIONAL OFF-STREET PARKING.

As a part of the report on Major Streets and Highways, previously referred to, various surveys were conducted to determine available curb and off-street parking facilities, the extent to which they were used, and the probable demand for such facilities in the future. The results of these surveys formed the basis for the recommendations contained in the Major Street Report.

Two other surveys were subsequently conducted, the first being concerned with shoppers' parking habits and the second with employees' parking

ce etc. These surveys provided valuable information which supplemented the facts brought out in the Major Street Plan Report.

### Traffic Entering and Leaving the Downtown Area.

While no recent traffic surveys have been made in downtown Newark, in 1937 the Department of Public Safety made a count of all vehicular traffic entering and leaving the business district between 7:00 A.M. and 7:00 P.M. on a typical week day. This count showed that during the day a total of 211,315 vehicles entered and left the downtown district. 32% entered and left from the West; 26% entered and left from the East; 21% entered and left from the North while 21% entered and left from the South. The number of vehicles entering and leaving from the various directions were as follows:-

<u>FROM</u>	<u>ENTER</u>	<u>LEAVING</u>	<u>TOTAL</u>	<u>PERCENT</u>
North	21,361	23,378	44,739	21.20
South	22,205	21,656	43,861	20.80
East	24,375	30,737	55,112	26.0
West	<u>33,629</u>	<u>33,594</u>	<u>67,223</u>	<u>32.00</u>
Total	101,550	109,765	211,315	100.00

Plate #1 shows graphically the volume of traffic entering and leaving the central business district on most of the principal streets. In 1937, traffic was near its pre-war peak, and since the end of



# CITY OF NEWARK, NEW JERSEY



TRAFFIC  
ENTERING AND LEAVING  
DURING TWELVE HOUR PERIOD  
7 A.M. TO 7 P.M. 1937

CENTRAL BUSINESS DISTRICT  
AND ADJOINING AREA

SCALE  
IN THOUSANDS OF CARS

PREPARED BY BOARD OF  
NEWARK, N. J. 1937

HAR AND BAR BOOMER & ASSOCIATE  
NEWARK, N. J.

#### Parking Facilities.

The parking survey showed that in 1945 there was a total of 10,008 off-street parking spaces available within the central business district, of which 6,085 spaces were provided on public parking lots; 2,344 in public parking garages; 1,120 on private parking lots; and 459 in private parking garages.

Curb parking provided space for 5,128 vehicles, of which 1,274 spaces were unrestricted; 1,157 spaces were in one hour metered areas; 1,557 spaces were in one hour unmetered spaces, while 140 spaces were in other categories. Within the central business district there are 223,001 lineal feet of curb parking space of which 120,796 lineal feet or more than 50% are located in "no parking" zones.

Appraisal of the number of vehicles which could be parked daily showed that 30,930 could be accommodated at the curb or in off-street facilities. This figure was arrived at by estimating the turnover in metered curb spaces, unmetered curb spaces,

and off-street facilities. The estimated 8-hour capacity is approximately 25% of the number of vehicles entering and leaving the business district daily.

#### Comparison of Parking Spaces with Other Cities.

It was found that in Newark there were 12.1 parking spaces for each 1,000 of population in the metropolitan area of Newark. This was relatively low compared to Cleveland with 22.6 spaces per 1,000 population, Dallas with 45.8, and St. Louis with 17.5. It was higher than Boston, Chicago, and Philadelphia, all of which cities have extensive rapid transit facilities which reduces the need for parking space in the downtown area.

#### Probable Future Need for Parking Space.

Estimates were made of the anticipated increase in the number of motor vehicles in Newark's metropolitan area. Whereas in 1940, there were 354,000 motor vehicles, the expected population increase and the anticipated decrease in the number of persons per motor vehicle, results in an estimated 406,000 vehicles in 1950, 483,000 in 1960, and 533,000 in 1970.

Without regard to the admitted deficiencies existing at present, it was estimated that approximately 5300 car spaces would be needed in the form of garages by 1950, compared to the 2803 now available.

#### Parking Requirements for Shoppers in Downtown Newark.

Maintenance of a stable tax base in Newark is largely dependent upon the prosperity and economic well-being of the downtown business district. Unless this area is made readily accessible to persons living throughout the Newark metropolitan area by efficient transportation; improved and modernized highway approaches; and adequate facilities in the form of off-street parking; the present trend toward decentralization of business will be accelerated and property values will be decreased. As downtown Newark is the principal shopping center for a large area in northern New Jersey, every means should be employed to attract shoppers from all parts of the metropolitan area.

Through the cooperation of the Broad Street and Merchants Association and the retail business establishments, a survey was made to determine the parking habits of persons who shopped in downtown Newark.

# CITY OF NEWARK, NEW JERSEY



## PRESENT PARKING FACILITIES

### LEGEND

#### OFF-STREET PARKING FACILITIES

- PUBLIC PARKING GARAGES
- PRIVATE PARKING GARAGES
- PUBLIC PARKING LOTS
- PRIVATE PARKING LOTS
- PUBLIC PARKING LOTS ON CITY OWNED PROPERTY

REMARKS: RIGHTS ARE TO BE MADE OF LAND SPACES

#### CURB PARKING FACILITIES

- UNRESTRICTED
- METERED (ONE HOUR LIMIT)
- 2 HOUR PARKING
- UNMETERED (ONE HOUR LIMIT)
- 300 FOOT WALKING DISTANCE ZONES FROM

## CENTRAL BUSINESS DISTRICT AND ADJOINING AREA

1/4" = 100' SCALE  
N. 4. 400' 0. 800' 1200' 1600' 2000'

40' 80' 120' 160' 200' 240' 280' 320' 360' 400'

Out of 14,000 questionnaires distributed by the various stores who cooperated in this survey, 1,284 replies were received, or 9.2% of the total number of questionnaires distributed.

The survey showed that of those persons who shopped in Newark, approximately 63% drove their cars downtown and of the replies received, 85% stated that if attractive and convenient parking facilities were provided, they would drive downtown more frequently for shopping purposes. The survey also showed that most shoppers were unwilling to walk more than three blocks from their parking place to a store and did not wish to pay more than 30 cents for a parking place.

From the results of the survey, it is clearly evident that the provision of attractive garages and parking lots would be very helpful in stimulating business by bringing more shoppers into the area.

Plate #2 shows the present curb parking restrictions and off-street parking facilities in the central business district of Newark.

# CITY OF NEWARK, NEW JERSEY



## PROPOSED STREET IMPROVEMENTS AND OFF-STREET PARKING FACILITIES

### LEGEND

- PRESENT PARKING LOTS
- PRESENT PARKING LOTS OCCUPYING
- CITY OWNED PROPERTY
- PROPOSED PARKING LOTS

## CENTRAL BUSINESS DISTRICT AND ADJOINING AREA

## PREPARED COMPREHENSIVE PLAN FOR OFF-STREET FACILITIES.

As a result of the various studies and surveys described above, a long range plan of off-street parking facilities was prepared and included in the Major Street Report. This plan is shown on Plate #3.

The plan also shows the proposed street improvements to improve accessibility and provide for the better circulation of traffic within the proposed central area. Briefly, the proposed parking plan is as follows:-

- (1) Supplement present parking lots and garages by providing additional off-street facilities for shoppers and other persons having business in the district in the form of deck type parking garages located as near the center of retail business as possible, (this includes Military Park Garage).

- (2) Provide additional facilities for all-day parkers and persons transacting business downtown by means of parking lots located along the distributor streets skirting the edges of the business district.

- (3) Install additional parking meters on streets convenient to retail shops where unmetered, limited time parking is now in effect.

- (4) Extend the "no parking" restrictions on streets where roadway capacity is limited and traffic is heavy.

- (5) Strictly enforce all parking violations to insure utilization of off-street facilities and maximum turnover of spaces.

- (6) License all parking lots and prescribe minimum standards of size, location of entrances and exits, surfacing and fencing.



The proposed system of new off-street parking facilities consists of four open deck three-story parking garages, one three-story underground parking garage and twenty parking lots. The garages would provide 4440 car spaces and the parking lots 3360 car spaces, making a total of 7800 new car spaces. Adding these to the car spaces now available in parking lots, garages and at the curbs, a total of 23,500 car spaces are provided which is approximately the number estimated to be needed in 1960.

#### Advantages of Military Park for Offstreet Parking.

The park is centrally located, being bounded by Broad Street, Park Place and Rector Street. It is triangular in shape, having a frontage of approximately 1050 feet on Broad Street and on Park Place and a frontage of approximately 425 feet on that part of Park Place bounding the Park on the North.

It is centrally located in respect to the downtown business district, being directly across the street from two of the large department stores and numerous other retail establishments. It is

only four short blocks from the largest department store in the City and within easy reach of the important Market Street retail establishments. Likewise, it is adjacent to two of the larger hotels, several large business establishments and office buildings and numerous amusement places. It is easily accessible from all parts of the City and the streets which surround it are wide and commodious. Most important of all - the land is owned by the City of Newark!

#### GENERAL PLAN FOR PROPOSED GARAGE.

In planning a facility of this type, located in the heart of the business district of a large metropolitan City, the primary consideration is to devise the entrances and exits in such a manner as to minimize interference by the vehicles entering and leaving the garage with other vehicular traffic on the adjoining streets.

In view of the fact that a large majority of retail business establishments are located west of Broad Street, it was also important to consider the convenience of persons desiring to park and shop in the area to the west of Broad Street.

Military Park is as old as the City of Newark itself, and has a long history. Its value as a beauty spot and breathing place in the center of a congested business district is enormous and this function must not be impaired by the construction of an underground garage.

The Park contains two historical structures which must be preserved, i.e., the monument and reflecting basin of the Wars of America Memorial and Trinity Cathedral.

In addition to these structures there are numerous large and old trees surrounding the Park which add greatly to its attractiveness. In particular, there is a Plane Tree near the center of the Park on Broad Street which has been in existence since the Revolutionary War.

All of these considerations entered into the planning of the facility.

In order to analyze the effect of traffic entering and leaving the garage, four different plans have been prepared, together with cost estimates.

The general size and form of the garage is similar in all cases.

It is planned to construct a three-story building under that part of the Park lying between the north end of the Wars of American monument and the south property line of Trinity Cathedral.

This is an irregularly shaped area having a frontage of approximately 500 feet along Broad Street and 550 along Park Place, a width of 240 feet at the south end and a width of 360 feet at the north end.

In order to preserve as many of the trees as possible, the walls of the garage would be set back approximately 30 feet from the sidewalk along Broad Street and Park Place.

The construction of the garage would involve excavating to a depth of approximately <sup>4</sup>40 feet over the area described above, building the reinforced concrete structure and covering the top with earth to a depth of approximately three feet.

In order to restore the Park as nearly as possible to its present condition, the existing grades would be maintained and after the structure was completed, that part of the Park would be rebuilt and attractively landscaped.

Because of the presence of a large sewer crossing the Park diagonally from West Park Street and Broad Street to Saybrook Place, it will be necessary to re-locate the sewer, extending it straight across the Park to Park Place and thence northerly along Park Place to Saybrook Place.

#### General Design Features.

Consideration was given to the problem of handling vehicles in the garage itself and it was decided that the cars should be parked and delivered by attendants rather than having the customer park his own car. Under the latter plan, the operating costs would be substantially reduced but the number of available parking spaces would be reduced approximately 30%. The additional cost to the patron would be offset by the convenience of having his car taken care of by an attendant. It was also concluded that, in order to make the garage economically feasible, it would be necessary to provide the facilities for sale of gas and oil and for the servicing of automobiles.

Consideration was given to the number of entrances and exits and it was concluded that not more than one entrance and one exit should be pro-

vided, as near as possible to the center of the business district. If additional entrances and exits were provided, the loss of the floor space and the increased cost of handling vehicles, would present a serious financial problem.

Provision for pedestrian underpasses to reach the west side of Broad Street and the east side of Park Place were made in all four plans.

For psychological reasons, it is very important that the entrance to the garage be made as attractive as possible, so as to invite patronage.

Following is a brief description of the four different plans which were considered:

#### Plan "A"

This plan provides entrances and exits from the west side of Broad Street by means of tunnels leading from West Park Street and Halsey Street to the garage. In order to provide land necessary for the construction of the drives and tunnels, part of the block bounded by West Park, Halsey Street, New Street and Broad Street must be acquired. While the plan has the advantage of giving access from the direction in which most of the patrons will come and the garage traffic will be separated from that on Broad Street, the additional cost of acquiring the property necessary for the approaches would be in the neighborhood of \$1,000,000 and would defeat the possibility of making a paying proposition out of the garage.

A tunnel entrance would have disadvantages over one which is wide and open.

This plan provides a capacity of 1,519 car spaces and has an overall area of 387,600 square feet. The cost is estimated at \$2,219,000 or \$1,460 per car space. However, if the cost of additional land is added, the total cost would be increased approximately 50 percent.

## Plan "B"

Plan "B" provides the entrances and exits within the limits of the Park along the Broad Street frontage. Vehicles entering the garage would proceed north on Broad Street and would turn into a ramp, the entrance to which would be between Cedar Street and West Park. Leaving the garage, traffic would use a ramp which emerges from the Park between New Street and Rector Street.

This plan would require a large opening at the point where the down ramp entered the garage and the up ramp left the garage. Under this plan the garage would have a capacity of <sup>4,300</sup> ~~13,600~~ vehicles and a gross area of 354,000 square feet.

The estimated cost is \$2,186,000, or an average of \$1,670 per car space.

The biggest advantage of this plan is that an attractive open entrance is provided on Broad Street, but this advantage is outweighed by the fact that it would be quite inconvenient for traffic entering the business district from the west or north to reach the entrance to the garage. For example - traffic entering from the north would be obliged to proceed to Mulberry Street, thence to Raymond Boulevard and to Broad Street in order to reach the entrance.

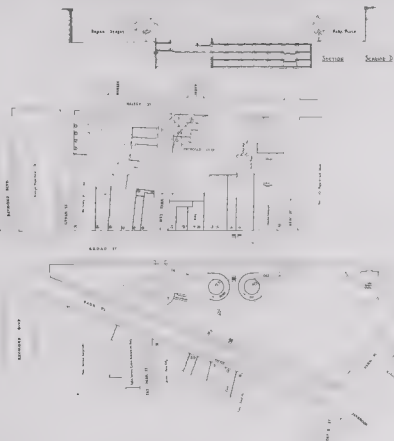
Another disadvantage of the plan is that the turning movements in and out of the garage might interfere with through traffic on Broad Street and with the movement of trolleys and trolley coaches which load and discharge passengers on Broad Street adjacent to the Park.



### Plan "C"

Plan "C" provides for an entrance and exit on Park Place. Traffic entering the garage would leave Park Place between East Park Street and Raymond Boulevard, proceed down a ramp and into the garage. Traffic leaving the garage would proceed up a ramp and enter Park Place near its intersection with Saybrook Place. Inasmuch as Park Place is a one-way street for northbound traffic, the entrances and exits would not interfere with loading and unloading or with moving traffic along Park Place. However, this plan is similar to Plan "B" in that it would be difficult for traffic entering the business district from the west and north to reach the entrance. It also has the disadvantage of providing the entrance on the opposite side from which most people would wish to enter.

Plan "C" provides 1,000 car spaces, and has a gross area of 360,900 square feet. It is estimated to cost \$2,139,000, or \$1,590 per car space.



PLAN OF PROPOSED MILITARY PARK GARAGE  
SCHEME 'D'

## Plan "D"

This plan provides the entrance and exit on the Broad Street side of the Park, the entrance being directly opposite West Park Street, and the exit directly opposite New Street. Both of these intersections are controlled by traffic signals, and the traffic can enter and leave the garage in accordance with the signal cycles. In order to avoid interfering with Broad Street traffic, no turning movements would be permitted at the intersections and all traffic entering and leaving the garage would cross Broad Street at a right angle. Traffic entering the garage would proceed by Halsey or Washington Street to West Park, and leaving the garage would proceed west on New Street to any intersecting north or south street.

### Traffic within the structure.

Traffic entering the garage would proceed along a driveway by the Wars of American monument on Broad Street to a circular ramp having a radius of 40 feet and a grade of 6 percent. This ramp would deliver the automobile to the first level of the garage where loading and unloading space is provided, and where the car would be taken by an attendant and parked.

A second circular ramp is provided leading from the first to the second level. By separating the grade of this ramp from the loading and unloading platform and entrance and exit driveways, all cross interference is eliminated.

Leaving the garage, traffic would proceed up-grade on a circular ramp which would deliver it to a drive leaving the park opposite New Street.

#### Pedestrian underpasses.

Pedestrian underpasses are provided to the west side of Broad Street and the east side of Park Place.

#### Landscaping.

Inasmuch as the entrance and exit drives are located approximately 40 feet east of the Broad Street curb, ample space is provided for preserving the present trees along the sidewalks, and for introducing landscaping which would screen the driveways from the Park itself or from Broad Street. The circular ramps would be in an open excavation which also could be screened by planting around the perimeters.

While it is not anticipated that the construction of the ramps and approach drives would seriously mar the appearance of the park, an alternative plan has been developed that would permit the top of the circular ramps to be covered over and sodded. Although this cover would be approximately two feet above the grade of the park, it could be landscaped in such a manner that it would blend in well with the rest of the park.

#### Capacity.

Under this plan, there would be a total of 1,273 parking spaces provided, of which 406 would be on the upper level, 426 on the middle level, and 441 on the bottom level.

The garage is designed to reduce to a minimum, the number of encumbered spaces - that is, those spaces which would be behind another row of parked vehicles.

There are only 177 encumbered spaces and these would be suitable for all-day parking, from which substantial revenues should be derived.

The amount of dead space is also reduced to a minimum and the service department would be located in that part of the structure where it would be inconvenient to move vehicles in and out.

#### Structural Details.

The gross area of the garage is 339,600 square feet, divided equally among the three floors.

The operating platform is located on the upper level, together with waiting rooms and patrons' rest rooms. Employees' lockers, rest and toilet rooms are provided on the middle level.

Access between floors is provided by ramps as shown on the plan.

The structure will have a total depth of approximately 45 feet below the surface of the Park,

the two lower levels having a 12-foot ceiling height and the upper level a 13-foot ceiling height.

The structure is to be entirely fire-proof and will consist of reinforced concrete walls, floors and columns. It is designed to resist hydrostatic pressure from ground water.

Ventilation will be provided by mechanical methods with ample blower fan capacity to keep the structure free from obnoxious fumes.

The main part of the structure will not be heated as, being underground, it is estimated that the minimum temperature would never be under 45°. Heating is provided for the platform space, offices and other auxiliary spaces.

#### COST ESTIMATES.

The estimated cost is \$2,035,000, the lowest of any of the four plans. This is \$1544 per car space.

Detail cost estimates were prepared, based on present construction costs which are substantially higher than those in effect prior to the War. It is interesting to compare the San Francisco garage, which

was started before the War and which cost a total of \$1,555,000 for a capacity of 1700 vehicles, with an average cost per car space of \$915. As this garage was constructed before building costs increased materially, and the surface of the park under which it was built was elevated, the reason for the difference in cost is apparent. Recently, in Detroit, a similar facility, having a capacity of 990 vehicles was estimated to cost \$1,816,000, or \$1825 per car space.

No land costs are involved as the property is owned by the City of Newark.

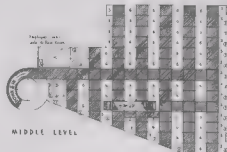
The above cost estimates include all construction expenses, including the cost of re-locating the large sewer and restoring the Park to its previous condition after completion of the garage building.

In the preparation of this estimate, it was assumed that no unusual four difficulties would be encountered, such as large rock formations, as the available information on soil conditions in the Park was meagre. However, reasonable contingency

Broad Street



TOP LEVEL



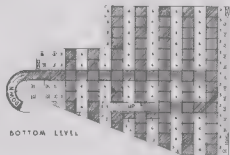
MIDDLE LEVEL

Scheme T<sub>5</sub>

maneuvering or spaces  
upper level  
lower level  
Total 10' 0"

MANEUVERING	UPPER LEVEL	LOWER LEVEL	TOTAL
100	100	100	300
5	10	10	25
0	0	0	0
			325

Note: Number of spaces retained for service  
ing facilities are provided



BOTTOM LEVEL

## FLOOR PLANS OF PROPOSED MILITARY PARK GARAGE



allowances were included in the detail estimates, which also include reasonable allowances for cost of soil investigations which should be made prior to the start of detail construction plans. It should also be noted that the cost estimates were based on the employment of types and methods of construction which took into account the probability of encountering reasonable amount of ground water during construction and of the eventual existence of not more than a four-foot head of active hydrostatic pressure below the completed lower floor.

The general plan of the proposed garage is shown on Plate 4 which also includes a section through the structure. Floor plans of the three levels are shown on Plate 5.

Plate 6 shows routed traffic to and from the garage under this plan.

Following is a summary of the construction costs estimate:-

Summary of Construction Cost. Plan "D".

Diversion of storm water sewer	\$ 90,500.
Adjustment of utilities in streets	10,000.
Removal of obstructions in park	4,200.

General excavation and disposal of surplus and earth filling over top slab, but exclusive of trenching for principal walls and other special construction.....\$245,600.

Summary of Construction Cost. Plan "D" Cont'd.

Brought Forward.....£350,300.

Structural work including trenching  
bracing and excavating for principal  
walls and foundations and excavating  
for special construction . \$ 1,124,000.

Plumbing and drainage..... 44,000.

Electric work and equipment..... 92,000.

Ventilation ducts, fans, etc..... 100,000.

Heating only for patrons' waiting  
rooms, operating office and employees'  
rest, locker and toilet rooms..... 12,800.

Street pavements, curbs, walks and  
entrance and exit driveways, curbs  
and protective ornamental fences,  
but exclusive of walks, etc. on  
interior of park..... 19,000.

Restoration of Park walks, lights  
and surface drainage facilities... 8,000.

Sodding and Landscaping including a  
partial replacement of trees..... 24,000.

Overall contingencies, other than  
those included in detail estimates  
of the several items, 5%..... 87,900.

General Contractor's Overhead, exclusive  
of on-the-job supervision and exclusive  
of equipment rentals which are included  
in unit prices 5%. 93,000.

Engineering and Architectural Plans  
and supervision 4%..... 75,000.

Surveys and Test borings..... 5,000.

Total \$ 2,035,000.

## FINANCIAL CONSIDERATIONS.

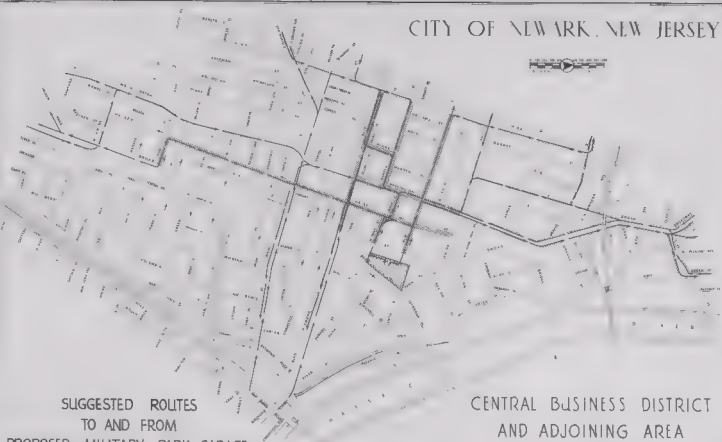
In the report on Major Streets, it was recommended that the proposed garage be constructed by a privately organized company which would enter into a lease with the City of Newark for use of the Military Park property. The improvement should be an attractive investment for private capital, provided construction costs are not excessive and arrangements can be made with the City for leasing the property for a period of from 20 to 30 years, at a nominal figure.

In view of the fact that the improvement will be of such a great public benefit, the City of Newark should be willing to cooperate in making the project self-supporting.

### Estimated Revenues.

An analysis was made of the probable revenues which could be derived from the project, the probable costs of operation and the carrying charges on the investment. In making this estimate, it was necessary to make certain assumptions as to the rate of occupancy or turn-over and the amount of business which could be induced by the sale of gas and oil and the washing of cars.

# CITY OF NEWARK, NEW JERSEY



SUGGESTED ROUTES  
TO AND FROM  
PROPOSED MILITARY PARK GARAGE

CENTRAL BUSINESS DISTRICT  
AND ADJOINING AREA

## LEGEND

- ROUTES TO AND FROM GARAGE
- ONE WAY STREETS
- SUGGESTED NO PARKING

W. D. PARKER & SONS, INC.  
TRADE NEW J. P.

HAD. AND. DISTRICT. CIV. W. & A. CO. BY  
T. J. GANES.

In the design of the garage, certain floor arrangements were unsuitable for parking cars and the service part of the business would be located in these areas. This would reduce the total capacity of the garage by 45 car spaces, leaving a net capacity of 1,273 vehicles. 177 of these spaces are located in such a way that their use is somewhat restricted, due to the necessity of moving vehicles in front of the encumbered spaces. They would, however, be suitable for all-day parking. The estimated revenues to be secured from the project are as follows:-

Parking Revenue:-

Short time -	\$320,480.	
All Day -	31,860.	
Week-end -	<u>39,426.</u>	
		Total \$391,766.

Service Revenue.

Sale of Gasoline	\$126,000.	
Sale of Oil	13,440.	
Car Washing & Polishing -	<u>48,000.</u>	
		Total \$187,440.
		Total Income \$579,206.

The revenue derived from short-time parking is based on an estimate that the 1096 unencumbered car spaces would be used on an average of 2-1/2 times daily, five days a week and that the average length

of parking would be three hours, producing a revenue of 45¢. Anticipated rates are 25¢ for the first hour and 10¢ per hour thereafter. It is estimated that the 177 encumbered spaces would be rented on a monthly basis of \$15. per month. The week-end revenues were based on the estimate that the 1096 unencumbered spaces would be used one time for each of two days (Saturday and Sunday), and that the average stay would be two hours, thus producing a revenue of 35¢.

The estimate for revenues derived from the sale of gasoline are based on the sale of 50,000 gallons per month and that of oil on 800 gallons per month. It was also estimated that there would be 2000 cars washed a month.

The estimates on revenue derived from the sales of gas and oil and other services are conservative and are materially less than revenues derived from similar activities in the San Francisco underground garage which has now been in operation for some time.

#### Estimated Costs.

Estimated costs for operating the facility are as follows:-

Personnel.....	120,500.
Power.....	6,000.
Heat.....	1,200.
Payroll Taxes.....	7,180.

Insurance.....	\$ 6,000.
Supplies.....	105,280.
Carrying Charges.....	<u>203,150.</u>

Total \$ 508,310.

The operation costs summarized above were arrived at as follows:-

Careful estimates were made of the number of employees needed to operate the garage on a 24-hour basis, 7 days a week. It was determined that 52 car attendants would be required at an average annual salary of \$2000. Seven car washers and five servicement would be required to handle the service end of the business, while twenty other employees such as cashiers, floor men, porters, superintendents and rest room attendants would be needed.

Power to operate the mechanical ventilating system and the lighting of the garage would be a considerable item, but heating costs would be comparatively low as it is not intended to heat the entire structure.

Payroll taxes are based on the present rate of 4% and insurance costs include all types of insurance, such as fire, theft and liability.

The cost of gasoline and oil is based on current quotations, and, in addition, the cost of supplies for washing cars, janitorial services and all other activities is included.

In order to amortize the cost of the project as quickly as possible, a 20-year period has been assumed, which will require an annual amortization payment of 5% on the capital, or a yearly cost of \$101,750. Interest on the investment at 4% would total \$81,400, and a payment to the City of \$20,000 annually for land rent, gives a total of \$203,150. Deducting the estimated cost from the estimated income, leaves a total of \$70,896, of which an estimated \$30,000 would be paid as income taxes. The net proceeds, after all deductions, are \$40,896.

#### ALTERNATE METHOD OF FINANCING.

Exploratory conversations have been held with several oil companies to ascertain whether or not they would be interested in financing a part of the cost of the proposed garage in return for the sale of gas and oil and providing other services in the garage.



These conversations indicate that there is a real interest on the part of major companies and that they might be willing to provide a substantial part of the capital cost of the improvement. This would be in the nature of a prepayment of rent in a lump sum which could be used by the operating company as capital for the construction of the garage.

It is estimated that approximately three-quarters of the cost of the facility could be obtained in this manner, leaving only \$500,000 to be secured from other sources, such as the sale of securities to interested business groups.

The lump sum payment by the oil company would be equivalent to a rental of \$50,0000 annually for 30 years. Under such an arrangement, the estimated expenses and revenues are as follows:-

EXPENSES.

Payroll .....	\$152,700.
Power.....	6,000.
Heat .....	1,200.
Payroll Tax .....	6,100
Insurance .....	6,000.
Interest on 50,000 at 4% ..	20,000.
Amortization at 3.33% .....	16,500.
Payment to the City .....	<u>20,000.</u>

TOTAL \$228,650.

## Parking Revenues

Short-time.....	\$313,040.
Monthly.....	29,160.
Week-end.....	38,980.
REVENUE TOTAL.....	\$381,180.
EXPENSE TOTAL.....	\$228,650.
GROSS PROFIT.....	\$152,530.
Estimated Income Tax.....	75,000.
NET PROFIT.....	\$ 77,530

It is suggested that if such an arrangement as this can be worked out, that the City should share in the profits on a pre-determined basis in addition to securing the flat annual sum as ground rent.

In addition to the plans described in the report, consideration was given to use of the Public Service Corporation tunnel as an entrance and exit to the garage. This tunnel extends from Washington Street, north of Raymond Boulevard to the Public Service Terminal Building on Park Place. It lies under Cedar Street between Halsey and Broad Streets and crosses under the extreme southern end of Military Park.

Most of the street car lines from the west formerly were routed through the tunnel, but when the city subway was constructed, it was abandoned for that purpose and now is used only by two trolley coach lines. The tunnel is 880 feet long, measured from the <sup>east</sup> ~~east~~ line of Washington Street to the west line of Park Place. It is approximately 28 feet wide, allowing one lane of traffic to proceed in either direction. The roof of the tunnel is supported by a row of columns in the center, making it impossible for traffic to move from one lane to the other.

corner of Halsey and West Park Street be cut back as shown on Plate 4.

Inasmuch as the garage is designed primarily for shopper's parking, the amount of all-day parking permitted should be limited to the 177 encumbered car spaces. Experience has shown that persons driving their car to shop avoid the peak hours of traffic, arriving after the morning rush and leaving before the evening rush.

Estimates indicate that approximately 375 cars per hour would enter the garage between 9 and 11 in the morning, and between 1 and 3 in the afternoon, and that 600 cars per hour would leave the garage between 3 and 5 in the afternoon.

The traffic signals at Broad and West Park and at Broad and New Street are timed so as to give a 24 second green interval to Park and New Street traffic in each cycle of 80 seconds. Approximately 20 cars can pass through each green interval and as there are 45 cycles per hour, it would be possible for 900 vehicles per hour to enter the intersection.

Traffic counts taken between 4 and 6 p.m. on November 19, 1946 show that 267 vehicles turned into New Street from Broad between 4:30 and 5:30 p.m., the maximum hour, 128 making right turns and 139 making left turns. Similar counts taken at West Park and Broad showed 53 cars turning right into Broad and 48 cars turning left into Broad between 5 and 6 p.m., the maximum hour.

Traffic counts were also taken at Halsey and New and at the intersection of Halsey, West Park and Linden. These showed the following:

Halsey and New

West on New Street	<u>457</u>	or	<u>253</u>	per maximum hour
Right turn into New	<u>148</u>	"	<u>76</u>	" " "
South on Halsey	<u>405</u>	"	<u>223</u>	" " "
Left turn into Halsey	<u>162</u>	"	<u>102</u>	" " "

Halsey, West Park and Linden

South on Halsey	<u>478</u>	"	<u>259</u>	" " "
Right turn into Halsey	<u>100</u>	"	<u>56</u>	" " "
Linden into West Park	<u>70</u>	"	<u>44</u>	" " "
Left turn into West Park	<u>130</u>	"	<u>68</u>	" " "

From the above figures, it is apparent that the introduction of garage traffic into West Park and New Streets would not congest the streets. With parking eliminated on one side of the street, New Street and West Park can accommodate approximately 1,050 vehicles per hour between Broad Street and Halsey Street. The total anticipated volume during the evening rush will not exceed 475-500 per hour on W. Park and 850 and 900 per hour on New Street.

LEGAL QUESTIONS.

A legal opinion on the title status of Military Park was made by Mr. George B. Astley, Assistant Corporation Counsel for the City of Newark. This opinion was quite lengthy and can be summarized as follows:-

"As it appears from the title and limitation of use in connection therewith, it would be necessary for the City first to obtain:-

"(A) Concurrence of the Legislature to overcome the limited use, (i.e. as a Park) no matter if the City

is to make the improvement, or otherwise;

"(b) If the City is to make the proposed improvement, besides the concurrence aforesaid, there should be an enabling feature in the Act, giving the City this right.

"(c) If the City is to lease the premises in question, with the understanding that the leasee is to make the improvement, any such lease would have to be within fifty years; and, also, it would be necessary to have legislature concurrence for the change of use, in which event the legislative act should contain an enabling clause, and especially so if the lease were to exceed the term of fifty years."

Inasmuch as it is proposed to lease the property for a period not to exceed 30 years, it would seem only necessary to prepare and have enacted enabling legislation permitting the City to enter into such an agreement.

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